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CLAIM AMENDMENTS

Please cancel claims 1-28 and add new claims 29-49, without prejudice or disclaimer, as indicated below, such that after entry of the amendment the claims remaining under consideration read as follows:

1-28 (Cancelled)

29. (New) A braking force amplifier with dual amplification ratios comprising:

a piston operated by a pressure differential between a front chamber and a back chamber, the piston comprising a first piston bearing surface coaxial with a second piston bearing surface;

a plunger operably attached to a brake pedal and axially displaceable within the piston to control the pressure differential;

a thrust assembly comprising a reaction rod, operably connected to a master-cylinder and mounted to be axially displaceable under control of the plunger between a first braking state and a second braking state, the reaction rod further including a flat head mounted to be axially displaceable within a sleeve;

a deformable reaction disc interposed between the piston and the flat head, said reaction disc disposed within the sleeve and held within the sleeve by an annular flange, the flange including a central orifice and forming a sleeve bearing surface axially separated from the second piston bearing surface when the assembly is in the first braking state and the sleeve bearing surface not axially separated from the second piston bearing surface when the assembly is in the second braking state, and wherein movement of the assembly from the first braking state to the second braking state deforms the reaction disc, said deformation absorbed by a distance between an internal surface of the disc and the annular flange.

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30. (New) The amplifier of claim 28 further comprising elastic means permitting a reaction force to be applied to the flat head.
31. (New) The amplifier of claim 28 wherein the elastic means is between an internal stop of the sleeve on one side of the flat head opposite the reaction disc
32. (New) The amplifier of claim 30 wherein the elastic means is a conical washer.
33. (New) The amplifier of claim 28 wherein the deformation is a function of stiffness of the reaction disc.
34. (New) The amplifier of claim 28 wherein the first piston bearing surface and sleeve bearing surface are annular and co-axial.
35. (New) The amplifier of claim 29 wherein the central orifice is circular and the end of the piston able to slide in the central orifice is circular.
36. (New) The amplifier of claim 29 wherein first amplification ratio is constant.
37. (New) The amplifier of claim 29 wherein second amplification ratio is constant.
38. (New) The amplifier of claim 29 wherein the plunger comprises a plunger bearing surface comprising a diameter D_1 the first piston bearing surface comprises a diameter D_2 and the second piston bearing surface comprises a diameter D_3 and the ratio of amplification of the braking force is substantially equal to $(D_2/D_1)^2$ while in the first braking state and the ratio of amplification of the braking force is substantially equal to $(D_3/D_1)^2$ while in the second braking state.

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39. (New) The amplifier of claim 38 wherein the transition from the first braking state to the second braking state is nonlinear.

40. (New) A braking force amplifier with dual amplification ratios comprising:

a piston operated by a pressure differential between a front chamber and a back chamber, the piston comprising a first piston bearing surface;

a plunger operably attached to a brake pedal and axially displaceable within the piston to control the pressure differential;

a thrust assembly comprising a reaction rod, operably connected to a master-cylinder and mounted to be axially displaceable under control of the plunger between a first braking state and a second braking state, the reaction rod further including a flat head mounted to be axially displaceable within a sleeve;

a deformable reaction disc interposed between the piston and the flat head, said reaction disc disposed within the sleeve and held within the sleeve by an annular flange, the flange including a central orifice and forming a sleeve bearing surface, and wherein movement of the assembly from the first braking state to the second braking state deforms the reaction disc, said deformation absorbed by an axial distance between an internal surface of the disc and the annular flange.

41. (New) The amplifier of claim 40 further comprising elastic means permitting a reaction force to be applied to the flat head.

42. (New) The amplifier of claim 41 wherein the elastic means is between an internal stop of the sleeve on one side of the flat head opposite the reaction disc.

43. (New) The amplifier of claim 42 wherein the elastic means is a conical washer.

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44. (New) The amplifier of claim 40 wherein the deformation is a function of stiffness of the reaction disc.

45. (New) The amplifier of claim 40 wherein the first piston bearing surface and sleeve bearing surface are annular and co-axial.

46. (New) The amplifier of claim 40 wherein the central orifice is circular and the end of the piston able to slide in the central orifice is circular.

47. (New) The amplifier of claim 40 wherein the first amplification ratio is constant.

48. (New) The amplifier of claim 40 wherein the second amplification ratio is constant.

49. (New) A braking force amplifier with dual amplification ratios comprising:
a piston comprising a first piston bearing surface;
means for controlling the pressure differential by switching means;
a thrust assembly comprising means for connecting to a master cylinder,
a deformable reaction disc interposed between the piston and the connecting means
for connecting to a master cylinder, and wherein movement of the assembly from a first
braking state to a second braking state deforms the reaction disc, said deformation absorbed
by an axial distance between an internal surface of the disc and the annular flange.

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INTRODUCTORY COMMENTS

The present amendment replies to a Final Office Action dated October 21, 2003 and an advisory action dated December 18, 2003. In the Final Office Action, Examiner Lopez asserted the following rejections and objections of pending claims 15-28:

- A. Claims 15-28 were rejected as indefinite under 35 U.S.C. §112 second paragraph.
- B. Claims 15-20 were rejected under 35 USC §103(a) as unpatentable over Endo or Levrai in view of Suzuki.
- C. Claims 15, 16, 19 and 20 were rejected under 35 USC §103(a) as unpatentable over Gauthier in view of Suzuki.
- D. Claims 15, 16, 19 and 20 were rejected under 35 USC §103(a) as unpatentable over either Japanese Patent 10,230,841, Inoue or Tobisawa in view of Suzuki.
- E. Claims 21-28 are allowable if rewritten to comply with 35 U.S.C. §112 second paragraph and rewritten in independent form.

In addition, Applicant would like to add new claims 29-49.

- F. New claims 29-49 are patentable over the prior art.